



# **Armed Forces College of Medicine AFCM**



# Vessels of thorax

# INTENDED LEARNING OBJECTIVES (ILO)



**By the end of this section each of the student should be able to:**

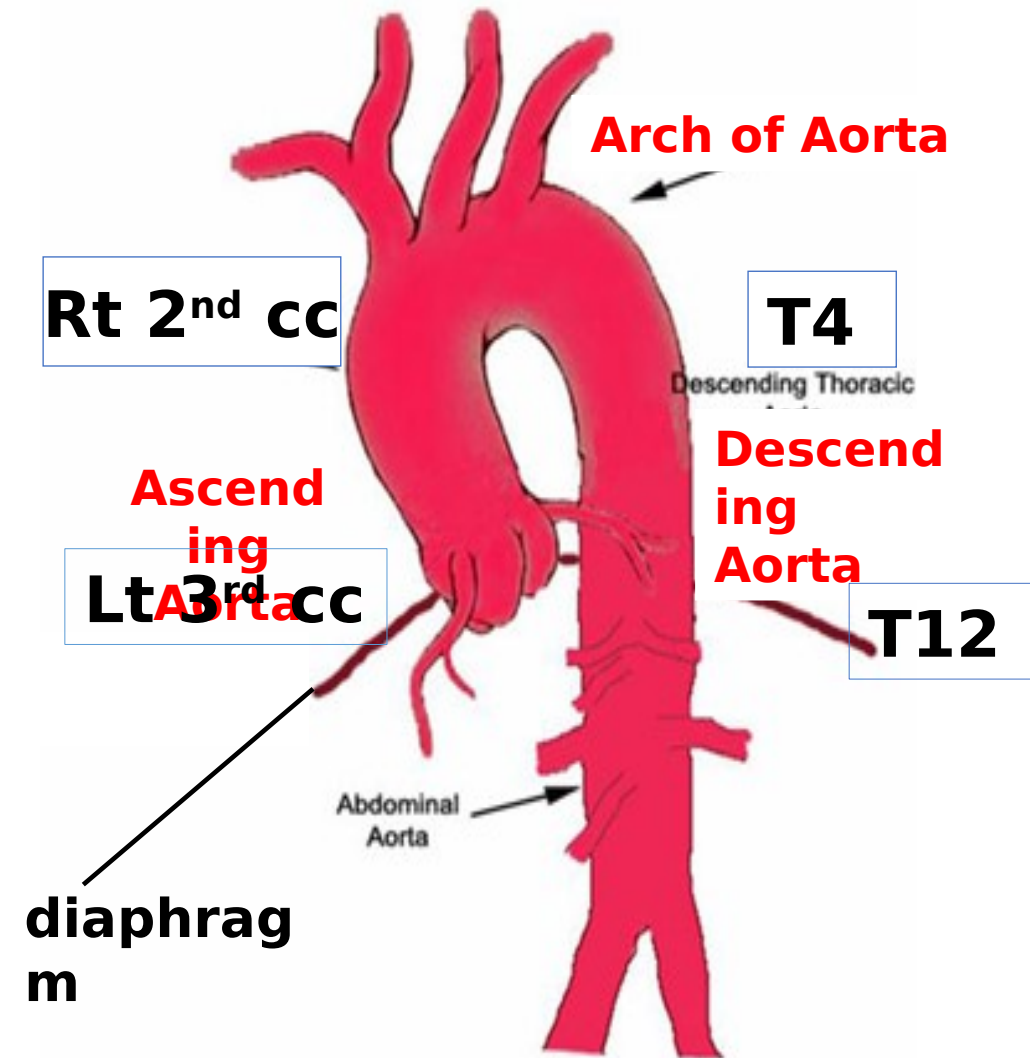
1. Describe the course and the branches of the arteries and veins of the thorax.
2. Recognize the parts of the sternum and its attachments.

# Thoracic Aorta



It is divided into 3 parts:

- Ascending aorta
- Arch of the aorta
- Descending aorta



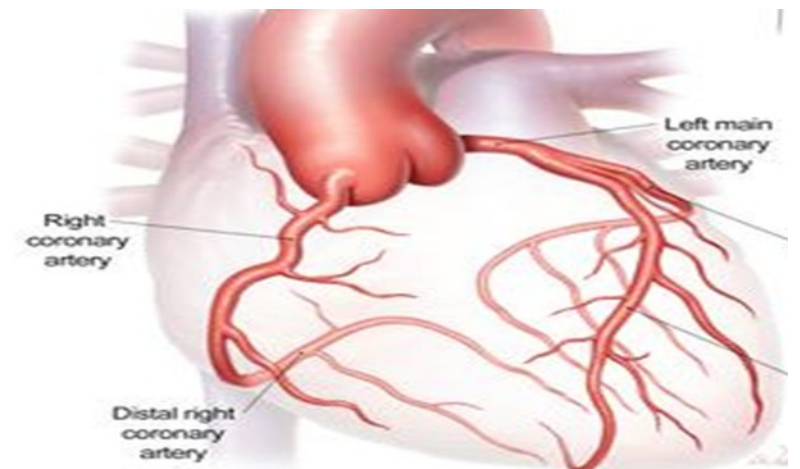
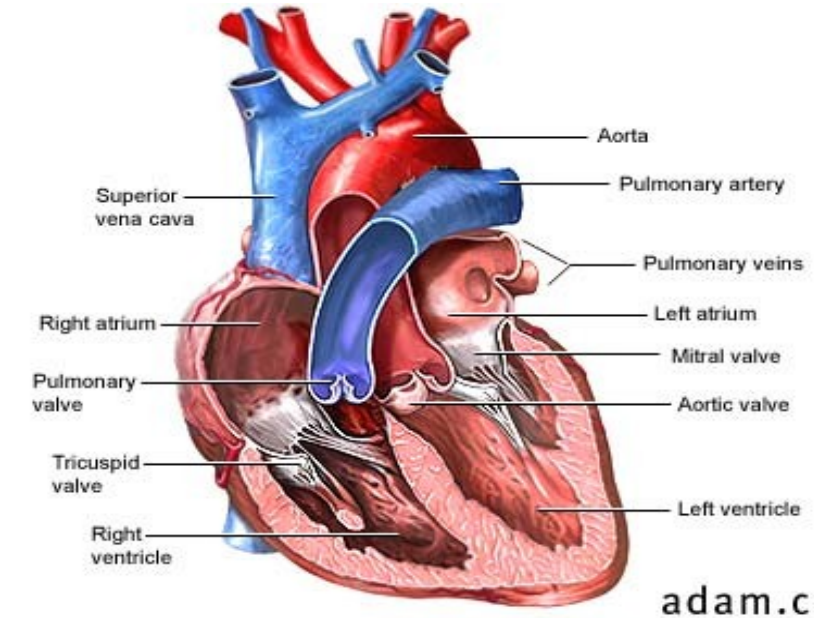
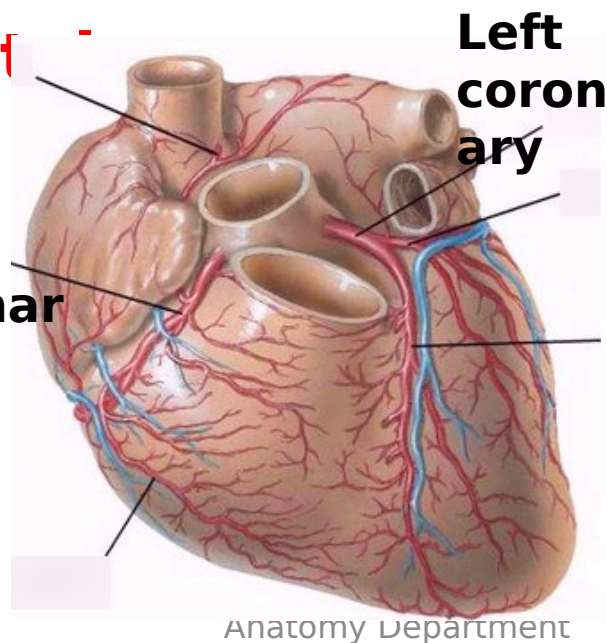
# Ascending Aorta



- Begins at **3rd Lt. costal cartilage.**
- It ascends **upward forward to the right.**
- Ends at **2nd Rt. costal cartilage.**
- It presents 3 aortic branches
- 5 cm.

## Branches:

### 1. Rt. Coronary



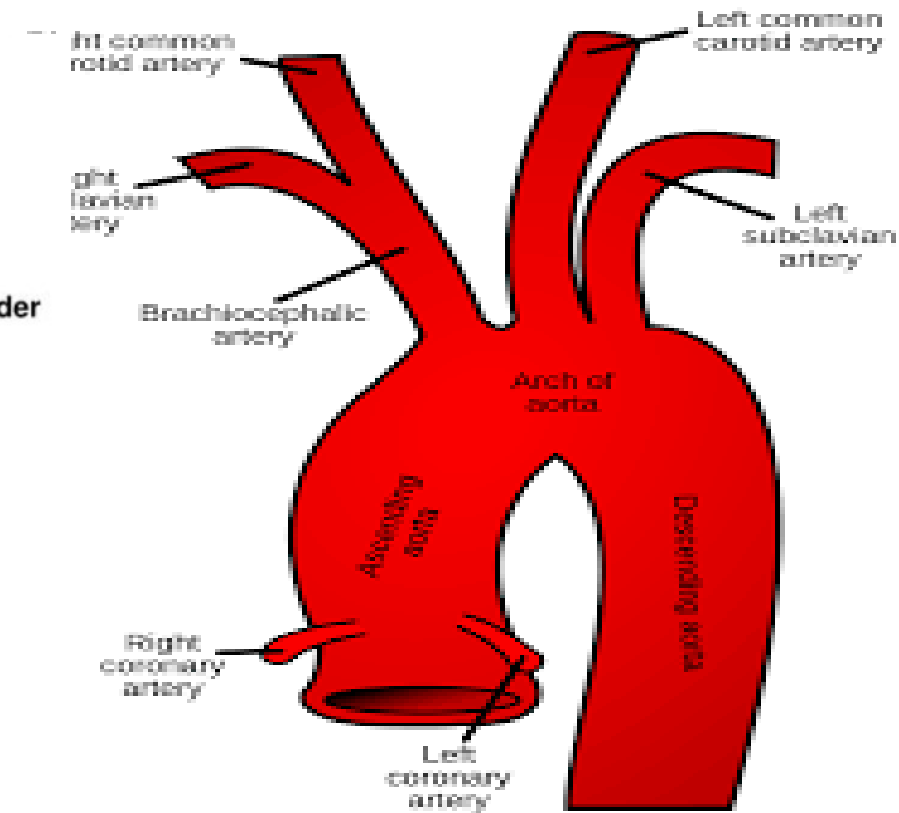
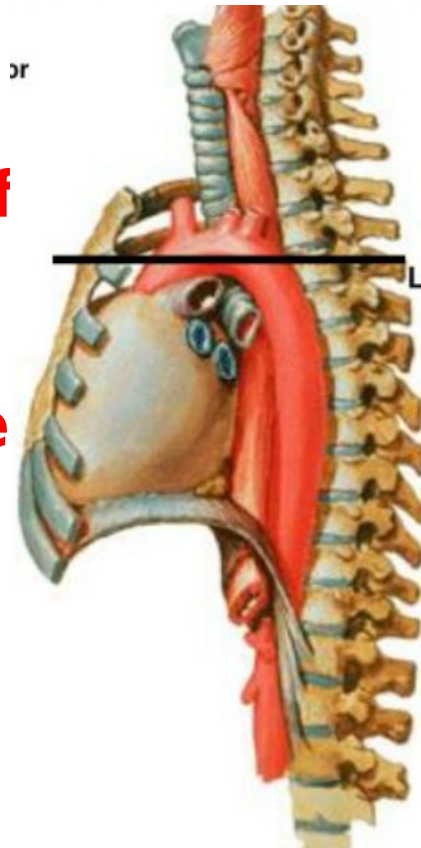
# Arch of Aorta



- It begins at **Rt. 2<sup>nd</sup> costal cartilage** junction.
- It lies behind **lower ½ of the manubrium sterni**.
- It ends at **Lt. side of the T4.**

## Branches:

- 1.Brachiocephalic trunk
- 2.Left common carotid
- 3.Left subclavian



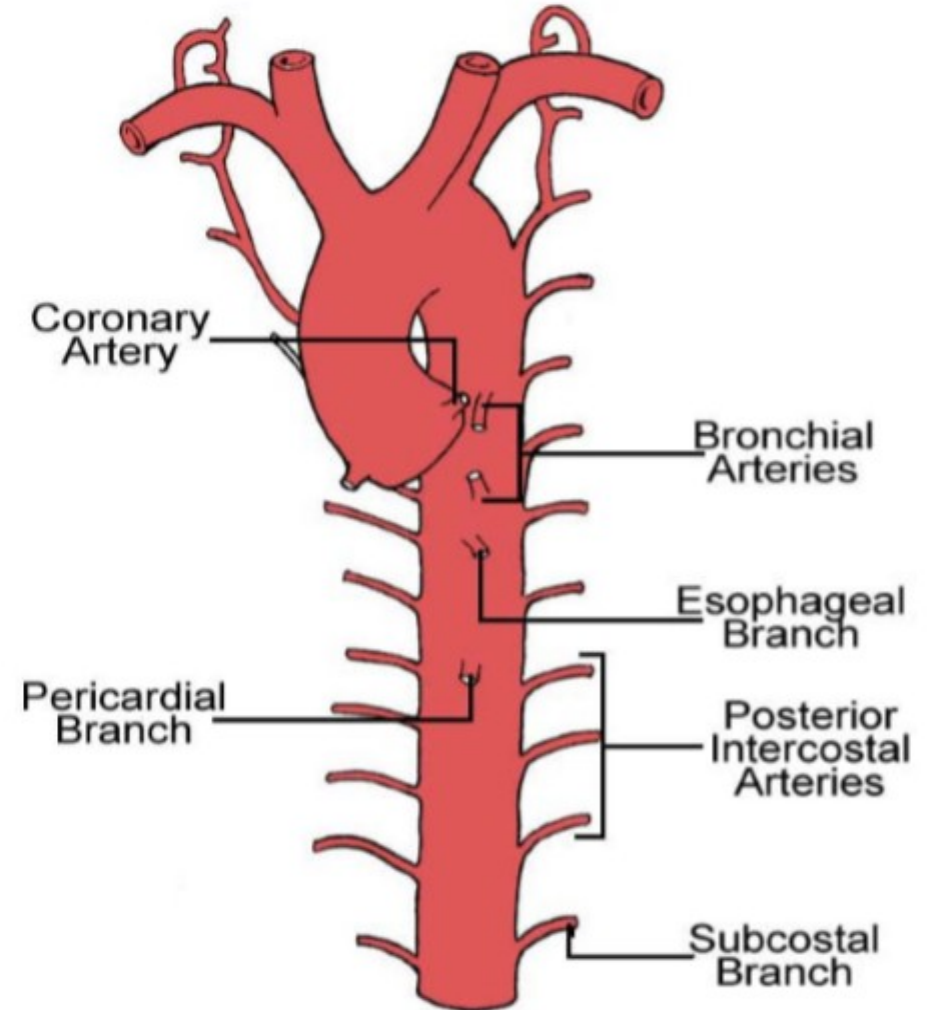
# Descending Aorta



- Begins at **Lt. side of T4.**
- Ends at the **T12 in the midline** by passing through the diaphragm.

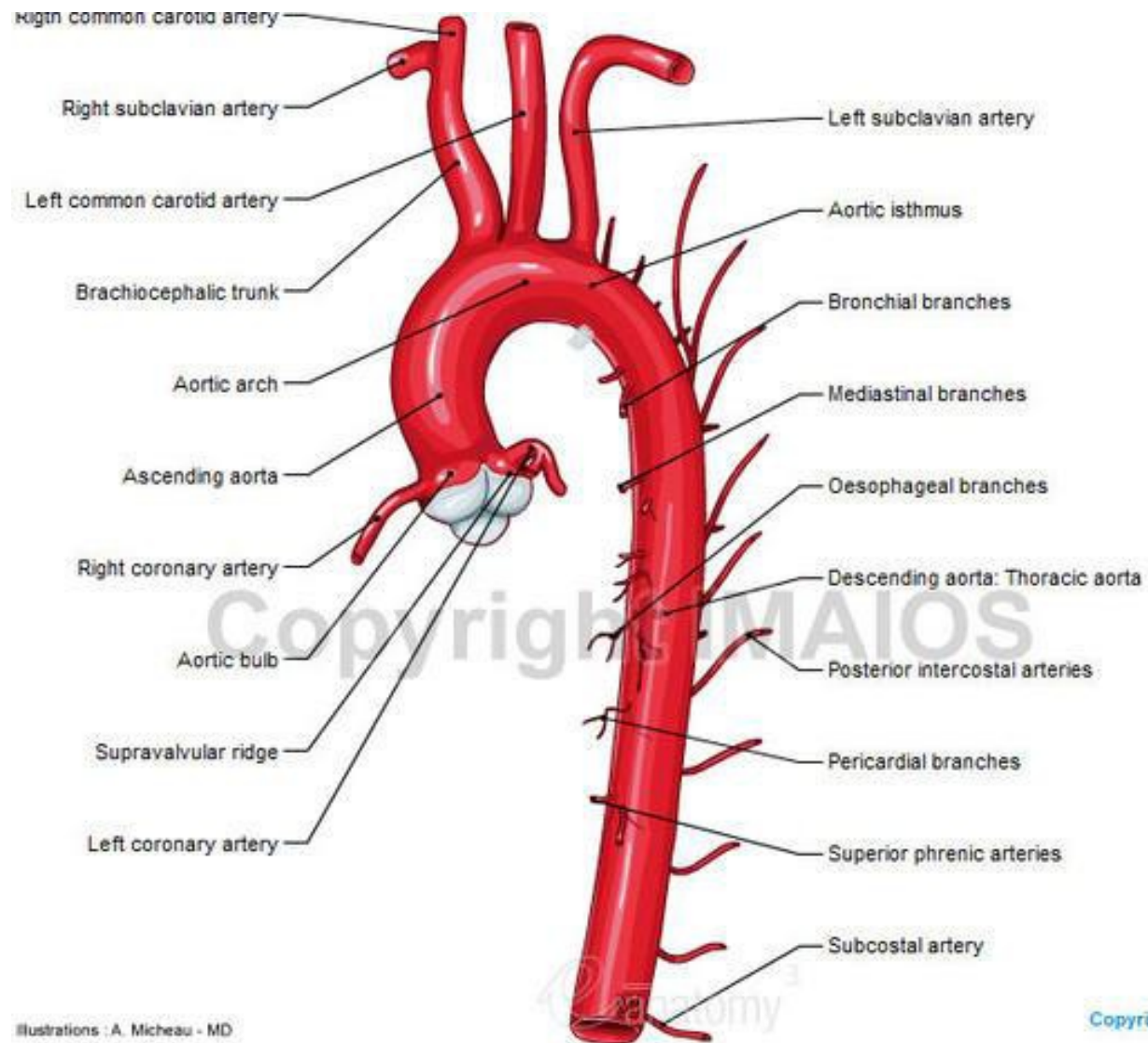
## Branches:

1. Posterior intercostal arteries (3-11 spaces)
2. Subcostal artery
3. Superior phrenic artery
4. Pericardial, esophageal,





# Descending Aorta



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Illustrations : A. Micheau - MD



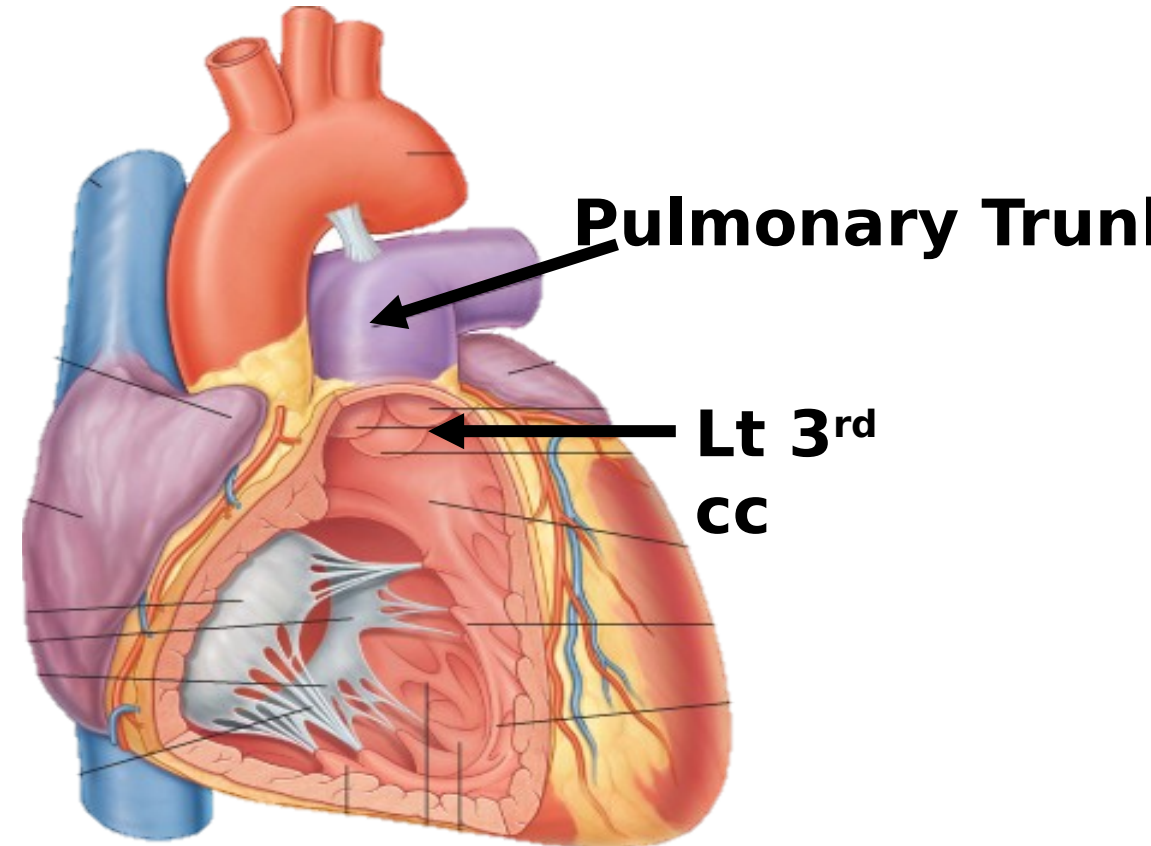
# Pulmonary trunk



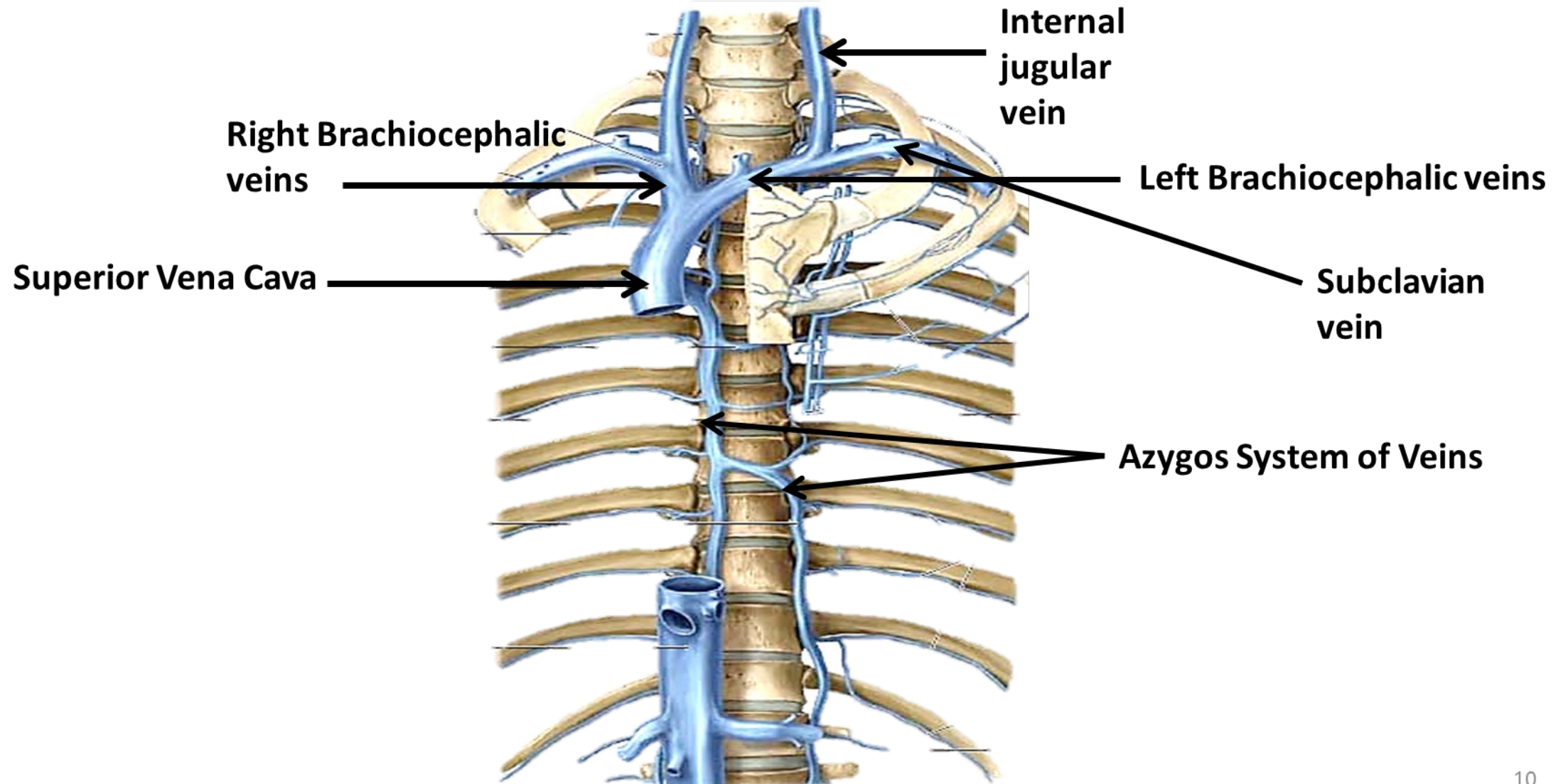
- Begins at pulmonary orifice ( **3rd Lt. costal cartilage** ).
- Ends in the concavity of the arch of aorta at **2nd Lt. costal cartilage** by dividing into two pulmonary arteries.
- 5cm long.

## Branches:

1. Rt. Pulmonary artery
2. Lt. Pulmonary artery (observe



# Brachiocephalic veins



# Brachiocephalic veins

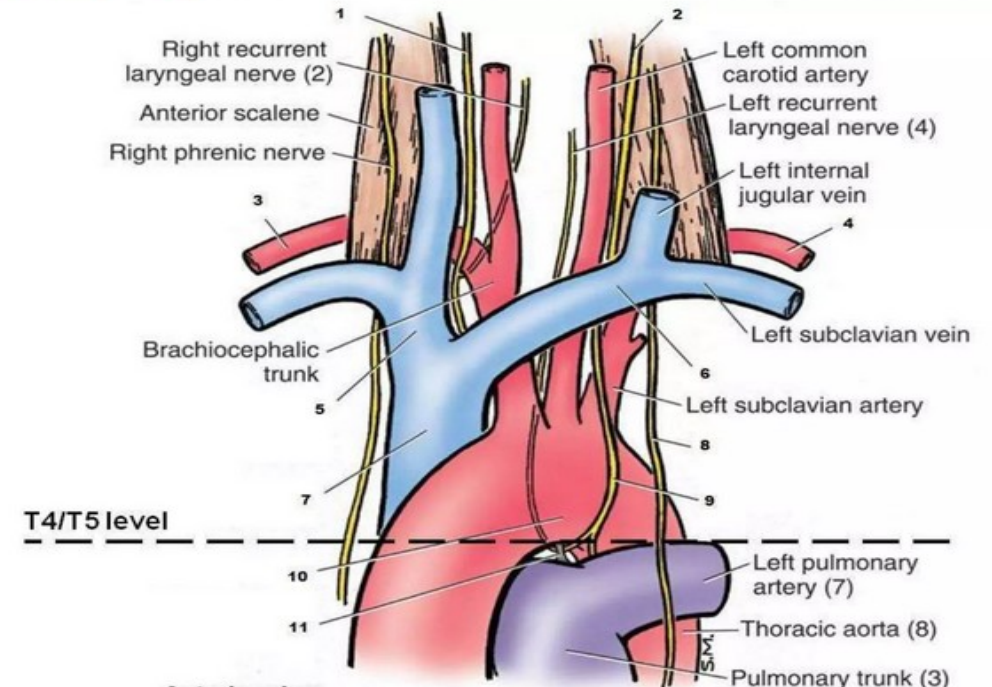
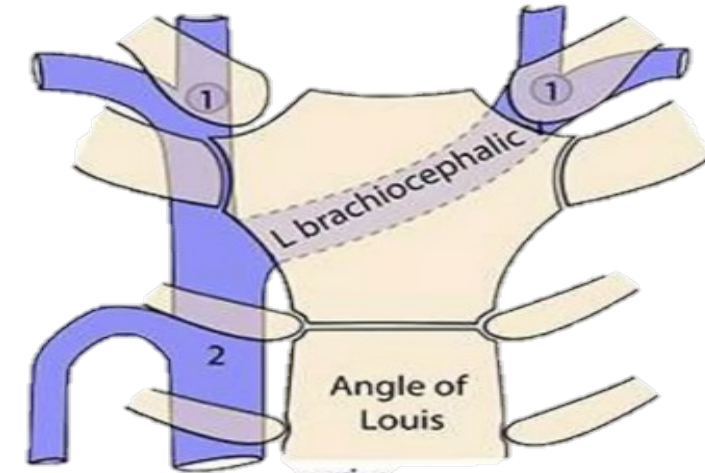


## Rt. brachiocephalic:

- 2.5 cm, vertical.

## Lt brachiocephalic:

- 6 cm.
- Passes obliquely, **posterior to manubrium sterni.**
- Crosses the **3 big branches of aortic arch.**

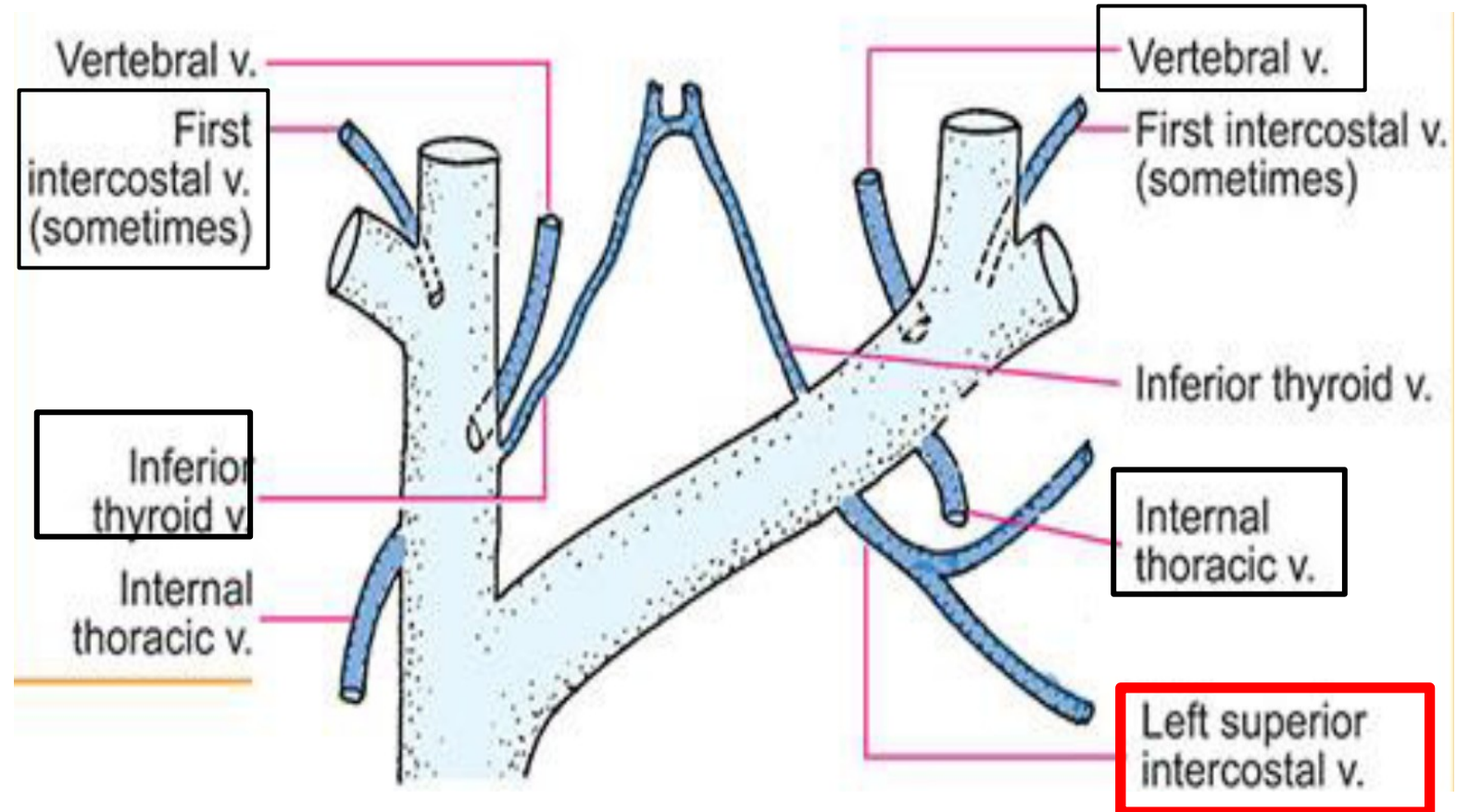


# Brachiocephalic veins



## Tributaries (both sides):

1. Internal jugular vein
2. Subclavian vein
3. Inf. Thyroid
4. Vertebral vein
5. Internal thoracic veins





# Brachiocephalic vein



## Special tributary

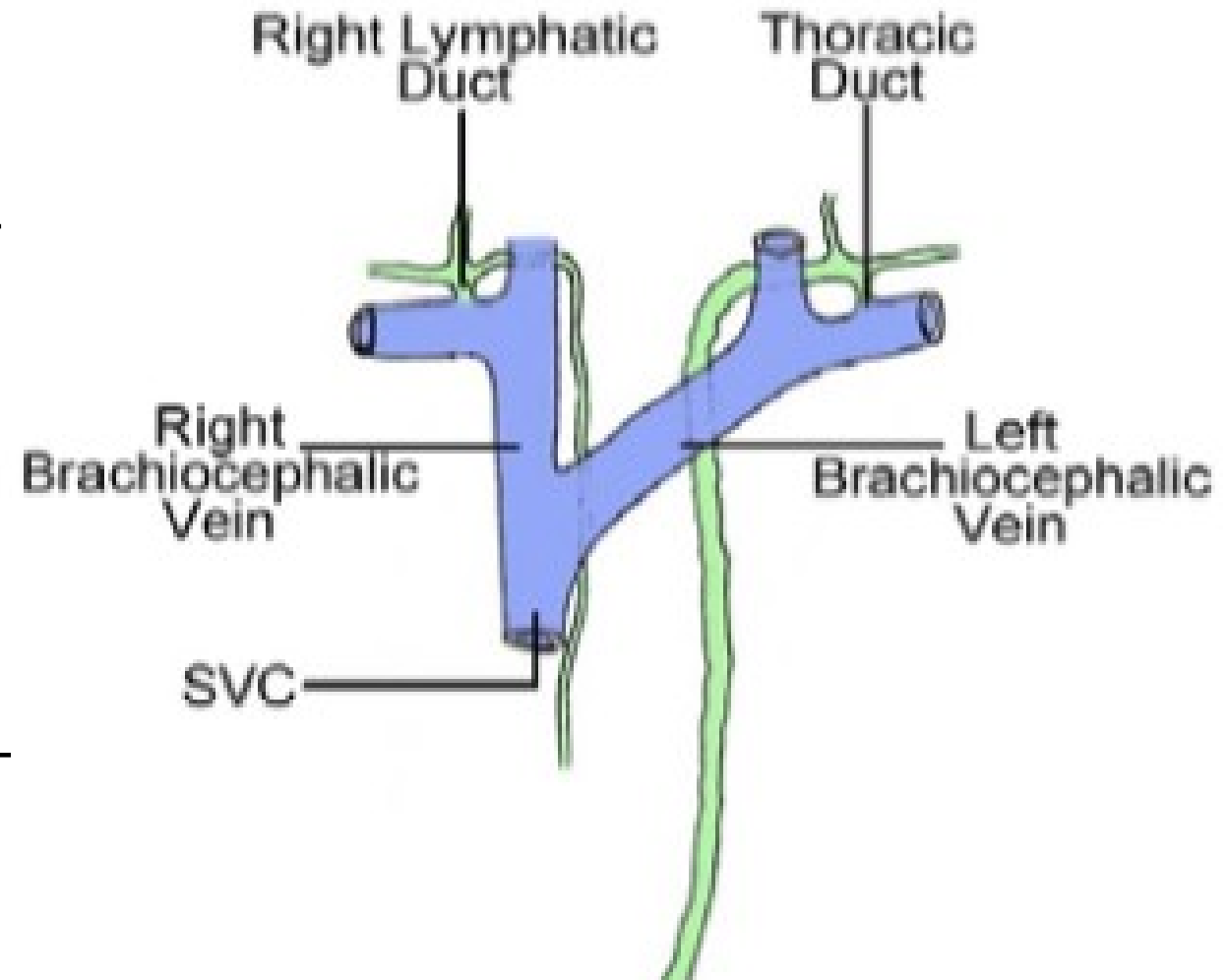
- Lt. Brachiocephalic:

1. Thoracic duct

2. LT. superior  
intercostal

- Rt. Brachiocephalic:

Rt. Lymphatic duct



# Superior vena cava

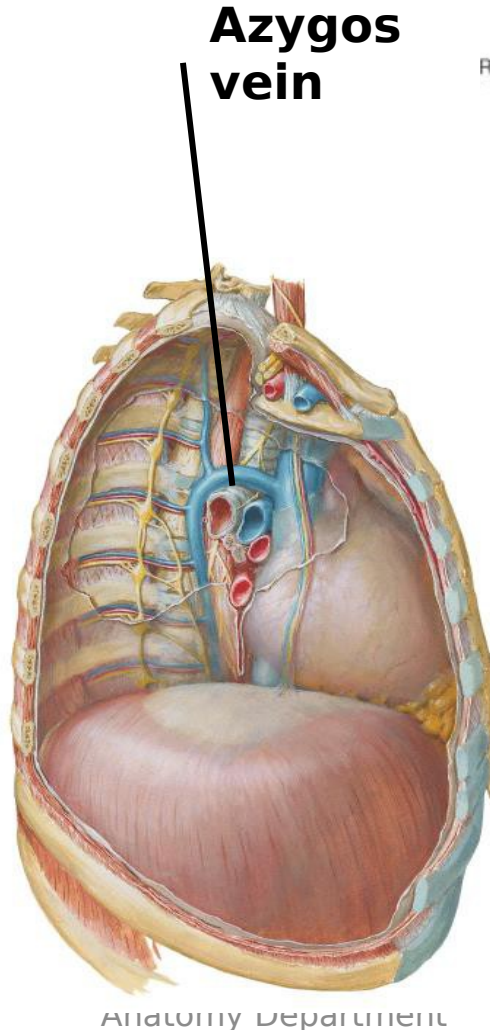


- Begins posterior to **Rt. 1<sup>st</sup> Cc** by union of brachiocephalic veins.
- Terminates posterior to **Rt. 3<sup>rd</sup> Cc** by opening into the Rt. atrium.

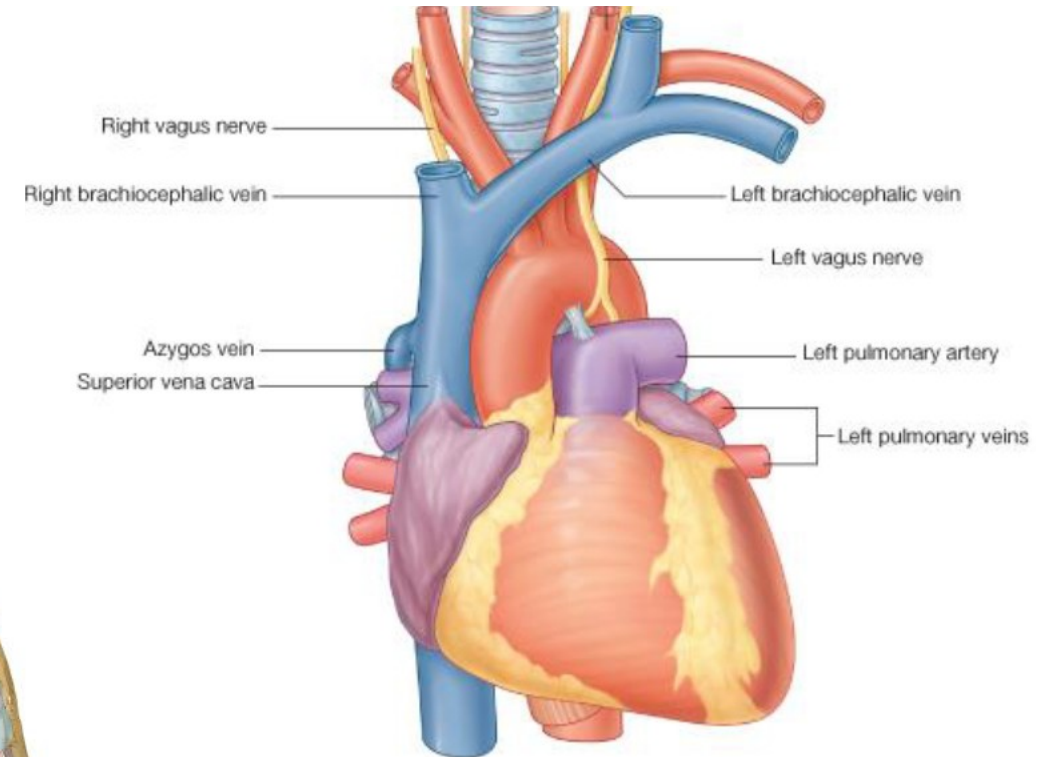
## Tributaries:

- Brachiocephalic veins
- Azygos vein opposite **2<sup>nd</sup>**

right cc



Anatomy Department

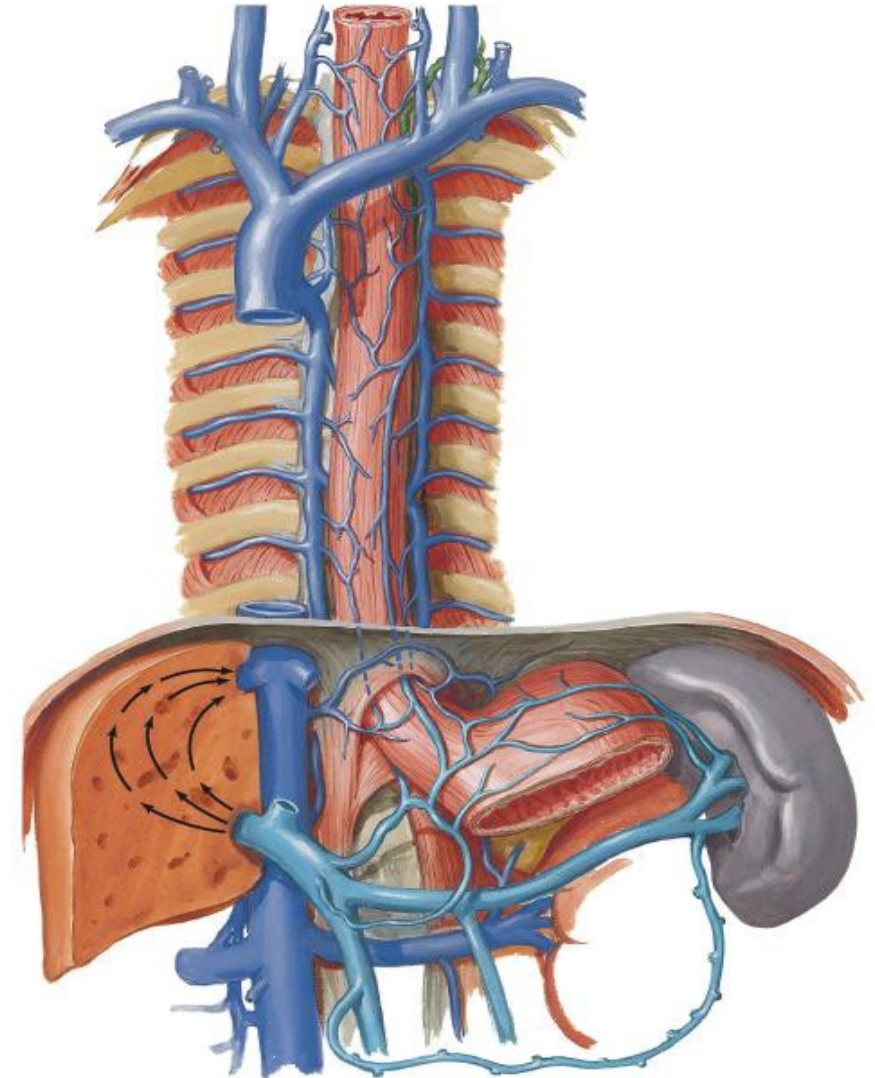




# Inferior vena cava



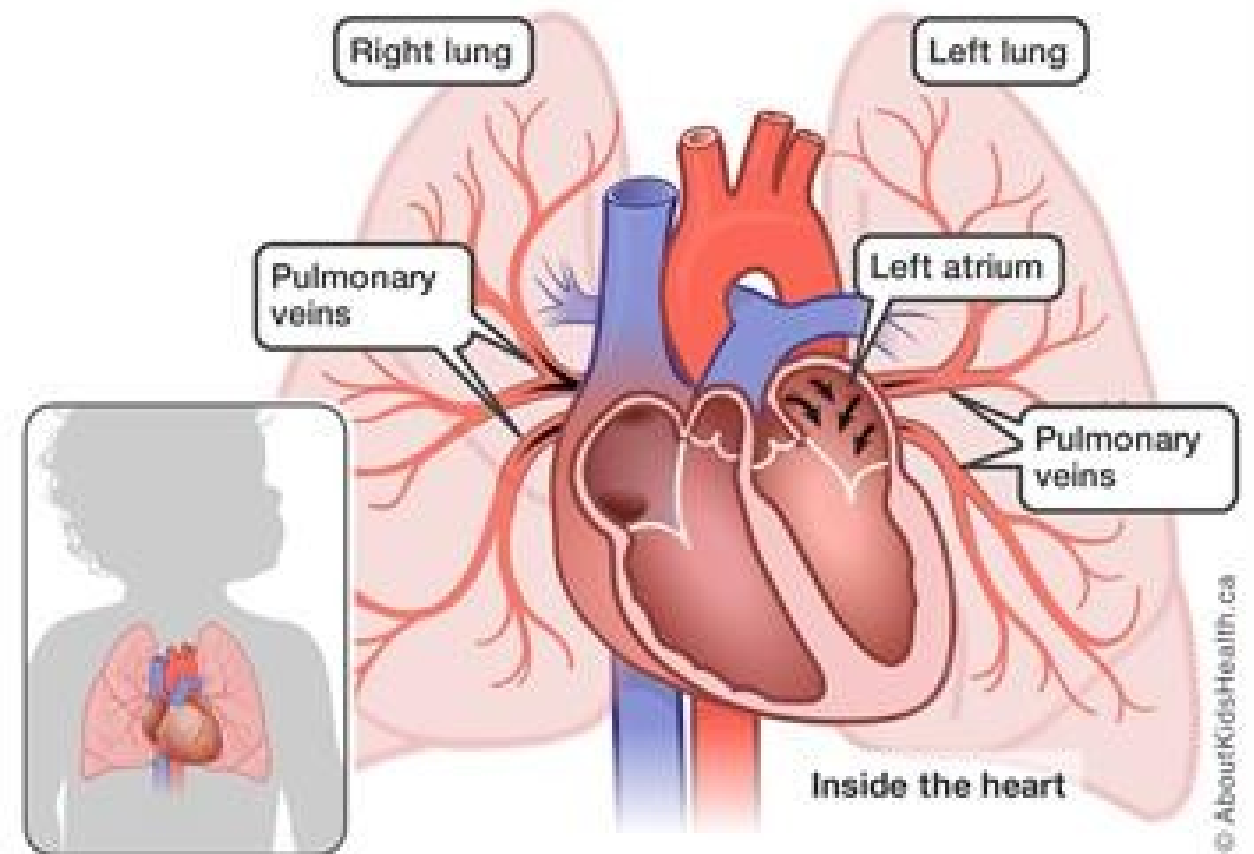
- Pierce central tendon of diaphragm to enter to the thoracic cavity  
**1 inch to Rt. of midline at T8.**
- Terminates posterior to **6<sup>th</sup> Rt. Costal cartilage** by opening into the Rt. atrium.



# Pulmonary veins



- **4 veins open in the Lt. atrium.**
- **Carry oxygenated blood from lungs.**



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# Thank you